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ONE DOLLAR



When I was 11 years old, the greatest event of the school year was sixth grade camp. In fact, the year before, as I watched the buses pull away for a week in the mountains, I just hoped that I could live through one more horrendous year until it was my turn.

However, when that auspicious day arrived, and I found myself somewhere in the hot, dry pine forests of the Southern California mountains, things went from bad to worse. First, I developed an immediate dislike for peanut butter and honey sandwiches, which was not a good thing, since they stored much too well, and reappeared like dragon's teeth at every meal despite daily surreptitious burial. Plus, I learned at that young age that I hated to hike in the woods. I had grown up riding horses, and sullenly resented being forced back to foot travel.

But, all would not have been lost on that first unhappy introduction to the woods if I had been allowed to carry home a small rock that caught my eye on the trail. A watchful camp counselor squashed that option with the stern admonition to "leave everything as it is." "After all," said the lizard-skinned woman in khaki shorts, "if everyone took a small stone back with them, there would be no more left in the woods." The logic escaped this 11-year-old's comprehension, and only made that week in the woods worse. Life in the wilderness became a museum tour, where one could look but not touch.

I believe a kid should always have the freedom to take prisoners. After all, what is a kid without his treasures—his bottles full of frog eggs and swamp water, autumn leaves and water bugs? Well-meaning talk about "letting things be" is a lot of bunk to a kid.

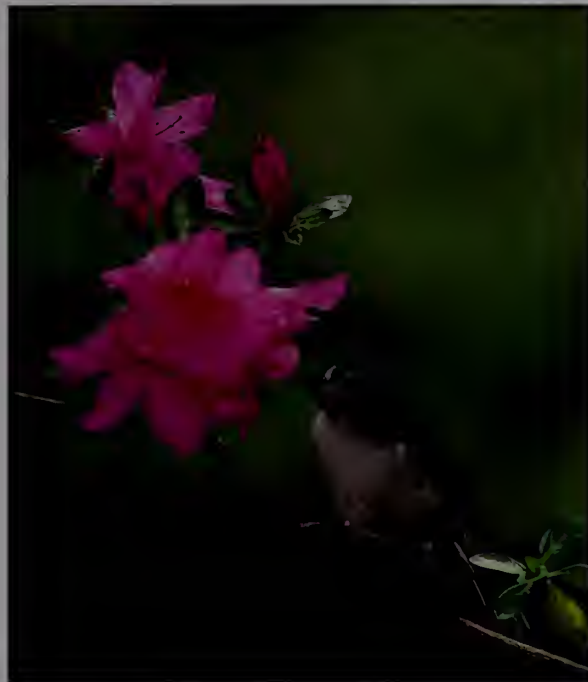
As adults, we've dispensed with our treasures, and it doesn't mean so much to us anymore to collect dandelions for daisy chains, stones for skipping, or rotting logs for making booby traps. We're no longer much obsessed with collecting those things in front of our noses—unless they're to be used in some floral arrangement or as part of a Christmas decoration.

But, kids *need* treasures. That's why last Sunday my friend Cammy carefully tucked away in her wallet a four-leaf clover that her 9-year-old son Charlie had found earlier that day, and ingeniously wrapped a newly-captured (though long abandoned) bird nest in a piece of cardboard. Charlie would want them both back later. He would insist on it.

But, I find that I'm a little worried for the future of a kid's right to treasure hunt. Our woods are becoming as precious and untouchable as the Faberge' eggs that are locked up in their glass cases in the Virginia Museum. We can admire them from afar, but we can never pick them up and run our fingers over the pearls and the diamonds, or hold them still in our laps and dream of elves and fairies and monsters—even though that is what they may have been crafted for.

It's the same in our woods. The pressure on our wild places increases with each foot of land we lose to our bulldozers and our concrete. Our numbers are too great and our needs too intense to allow for childish treasure collecting in our natural areas much longer. Soon, it may be a serious transgression to roll down a hillside of wildflowers, to pluck lichens off a tree for a closer look, or to splash through a muddy creek leading imaginary forces on grand assaults into the wilderness, in search of wonder and adventure.

I know this care of our wilderness is necessary, but I can't help but feel sorry for kids. It is a terrible thing to *see* a treasure and not be able to pursue it; to see a butterfly and be stopped mid-air from catching it in your fist, because "it is too rare. We must preserve it all." We learn the sense of all that later, of course. And soon enough. It's just a shame we've taken so much from our kids and left them with so little. It's not just that we've taken away a few freedoms. We've taken away too many of those things which make life grand.—Virginia Shepherd



Tufted titmouse on azalea; photo by Joel Arrington.

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Cover: Two-week old wild turkey poults; photo by Lloyd B. Hill. Back cover: Spider web; photo by John Danehy



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Many anglers feel that catching bass and panfish on the surface with popping bugs is the most enjoyable way to fish in Virginia. After all, it is very easy to do and it takes lots of nice fish.

It is both unfortunate and misleading however, that over the years the term "popper" has been adopted as the term to identify these surface bugs. The popping action is only one of many actions that is possible and desirable with these floating bugs. This simple term—"popper"—has probably limited the expanded applications of this outstanding lure more than any other single thing.

These hard head floating bugs were originally developed close to our waters in 1905, when Ernest H. Peckinpugh of Chattanooga, Tennessee attached a piece of cork to his bucktail fly to keep it close to the surface.

He did very well with these patterns on bluegills. About 1910, he started tying them in larger sizes and found that the bass liked them every bit as much as the bluegills had.

Due to a heavy daytime work load, Mr. Peckinpugh restricted the use of these bugs to night fishing. Word of his success spread rapidly, and in the 1913 edition of the John I. Hildebrandt Company's fishing catalog, the cork surface bugs were offered for sale under the name of "Night Bugs."

Shortly after this, a broad assortment of cork surface bugs were developed by Will H. Dilg, a fisherman and outdoor writer, and Cal McCarthy, a fly-tyer, both of Chicago. These patterns became very popular under the name of Mississippi River Bass Bugs. Although these were developed over 50 years ago, they are extremely effective today. I have a number of these Mississippi Bass Bugs I fished regularly with, until retiring them recently for nostalgic reasons. They now hang above my desk. These bugs are normally constructed with either cork, balsa wood, or plastics for the heads and a variety of hairs and feathers for appendages.

Popper Logic

Using popping bugs for bass is simple enough, but the better flyfishermen know how important it is to understand these lures in order to bring in more fish.

by Harry Murray

photo by Larry Ditto

There are actually seven different basic styles of hard head bugs. Each is capable of producing a slightly different action in the water, and thus under a specific set of circumstances one bug may greatly out-produce another. It is important to realize that I am not referring to simply a variety of colors, or merely substituting hair body parts for hackles or rubber legs. All of these characteristics are extremely important and must be considered on the specific style bug; however, the seven types of bugs considered here all have slightly different head styles. This

component, when complemented with the appropriate dressing, governs their potential actions.

The Cupped Face Popper is used much more than any other surface bug, primarily because it is the most readily available. These bugs are at their best when it is desirable to attract a fish's attention with a minimum of forward movement. For example, let's assume that a 20-foot section of a large oak tree, with part of its limbs intact, is lodged in water about five feet deep in midstream.

The interwoven pencil-size branches provide protection for many minnows and a few large nymphs. The main part of the tree's trunk is half submerged, thus affording both shade and protection for the smallmouth lying under it. He has all the comforts of home—food and protection. In fact, this is his home, and he doesn't have to go far from it to obtain all of his needs.

This presents a demanding situation for us as we attempt to catch him. If the bass is lying close to the log, only a foot or so below the surface, it will not take much to attract his attention. Casting a Cupped Face Popper, such as a size 4 Crawl 'N Twitch bug right beside the log and gently giggling it will often bring a strike. If, however, the bass is lying on the bottom five feet down, it is often necessary to impart a firm stripping action to the bug to get his attention. This is where the proper popper selection is important; remember, he already has all he *needs* close by in the form of minnows. We must convince him that he really *wants* our bug.

The gentle bug action followed by two firm six-inch rips often does the job. Now, easy does it; don't be in a big hurry to keep popping the bug out away from the log. He may feel it isn't worth the trip to go after it. That's why we selected this bug; it can be made to attract the bass' attention with a minimum of forward movement.

The Skipping Bug has been one of my favorite surface bass bugs for a long time. This has been an outstand-

ing surface pattern in saltwater for many years, but that size is much too large for our bass. A size 4 is about right, with red and white or blue and white being the most productive colors.

The Skipping Bug does well in lakes when the fish are chasing schooling minnows on the surface. The game is to cast slightly in front of and several feet beyond the racing minnows, and, knowing the bass is in close pursuit, bring the bug back in front of his anticipated path. Here we really want to impart a series of rapid foot-long strips with the line hand, trying to make our

area can be expected to produce good surface action—with the proper bugs.

Smallmouth bass in these areas are accustomed to seeing minnows, disabled for whatever reason—wounded or dying—being swept along by the current. These minnows often splash and roll on the surface, possibly assuming a gulp of air could correct their dilemma.

The Darter Bug is perfect for this situation. Its open-mouth design enables us to convey this swimming, splashing minnow-action very convincingly. Only one's imagination limits

these ripples to midstream and on down into the pools, until the water gets real deep, the Darter will do a good job. Just experiment to find the most effective retrieve. As with the Skipping Bugs, size 4 is the best for most situations.

There are some situations in which a quiet bug action, even when applied with a fair amount of movement, is most productive. This is where the Slider Bugs come in. They are characterized by their pointed noses, and the Sneaky Pete is one of the best known Sliders.

Each surface bug is designed to be used in a specific way, contrary to the thinking that all "popping" bugs are fished the same way.



bug appear as easier prey to the bass than the minnows swimming away from him.

This same technique is also very effective in rivers when the bass are found chasing minnows in the shallow areas. I have found no other surface bug as productive as the size 4 Skipping Bug under these circumstances.

The heads of large river pools, right below the incoming riffles, are often overlooked by surface bug anglers, presumably on the assumption that this water is too fast to get the fish up. This is far from the case. As long as the water is not over four feet deep, and the current is not excessively fast, this

the many enticing actions of which this bug is capable.

For example, casting down and across the current and retrieving the Darter with a firm line-hand stripping action will cause it to lunge first to the right and then to the left, as long as the rod tip is pointed straight at it. Swinging the rod tip sharply to your downstream side at a low angle will cause the Darter to sweep widely to the side. Switching the rod tip to the upstream side and applying several firm strips will cause the Darter to jump rapidly from side to side as the faster current beckons a more radical response.

From the slow water at the edge of

Shallow areas along the banks and around islands produce well with Sliders. A loud popping action in water only a foot or so deep not only fails to bring a strike from sizeable bass in most cases; I have actually seen them run from it. So, when considering the best techniques for fishing these bugs under most conditions, just remember their name—"sliders." This is the way you want the bug to behave on the water. With the rod tip pointed at the spot where the fly line enters the water, use your line hand to gently slide the bug along the surface. This could be slow, periodic three-inch slides, or a rapid succession of foot-long slides. By

using the line hand in preference to the rod for this, you can easily make the bug behave exactly the way you want it to.

In fact, many accomplished anglers prefer to use the line hand for practically all surface bug actions. Once mastered, this allows much better fine tuning of the manipulations of the bug than is possible with the rod alone. It also frees the rod for the all important job of striking. The same relaxed wrist strike used to sink the hook of a size 16 dry fly into a trout's jaw will not do the job consistently on bass.

It is much better to strike hard-mouthed fish by locking the wrist of the rod hand and striking with a firm up sweep of the forearm, which is actually extended into a full arm motion when required. This puts the powerful butt of the rod into the strike, which helps tremendously.

I like to couple this rod motion with a firm snap of the line hand on my strikes, just to be on the safe side. If you leave a few bugs in the bass' jaws, you'll know you are hitting them a little too hard.

Okay, back to our bugs. There are many situations in which a compromise bug action is desirable.

For instance, when fishing a section of a river which contains many ledges in close proximity to each other, it may be necessary to alter the speed and the action of a surface bug often.

The water between two specific ledges may be five feet deep while only 60 feet upstream the water between two other ledges may be only two feet deep. Logically, and quite properly, we would assume that it would be necessary to create a louder bug action over the deeper water than over the shallow water. However, it would be a great waste of angling time to change from a Cupped Face Bug to a Slider and back, every time these situations are encountered.

My solution for this dilemma is to use a Potomac River Popper. Lefty Kreh gave me several of these on one of our smallmouth trips, and I have been using them very successfully in a broad variety of situations for a long time. Lefty developed this bug years ago and has used it in a yellow color

with great success all over the world. I have found that both the yellow and light green versions in sizes 4 and 8 will cover many of our needs in Virginia.

When retrieved with a firm stripping action, the Potomac River Popper can be made to create a lot of racket on the surface. On the other hand, when stripped gently, it can be made to slide and jiggle enticingly across the surface. In addition to the ledge type cover mentioned, the Potomac River Popper is very effective in the big back eddies that form on the slow water side of a river immediately below some riffles.

"The Bullet Head Bugs and the Pencil Poppers are both excellent hard head bugs to use when it is desirable to imitate a minnow action on the surface."

Some of these back eddies are five to six feet deep, while some are only two to three feet deep, but most of them hold good bass. I can confidently wade out toward one of these eddies and, using a Potomac River Popper, know I will be able to fish it with the type action required, whether that be very gentle or reasonably loud.

The Bullet Head Bugs and the Pencil Poppers are both excellent hard head bugs to use when it is desirable to imitate a minnow action on the surface. In fact, over 15 years ago, companies like Heddon and Hildebrandt, and master tyers like Herb Howard, marketed these type bugs with refer-

ence to this potential. Selecting names like Feather Minnow, Bucktail Minnow and Wounded Minnow, they implied just how their bugs should be fished.

I get excellent results with these bugs in the tails of pools late in the evenings. Many of these areas hold large populations of minnows which attract bass at these times. Since the largest fish are often wary in these shallow areas, it is usually desirable to approach them from downstream. As the old boys implied, an action that simulates a dying minnow struggling on the surface will take lots of bass. This action is easy to impart to the bug by casting up and across stream at a very slight angle and retrieving it with a gentle irregular stripping motion. We want to convey sort of a dive-glide-dive action to the bug.

Since many of these bugs are fairly wind resistant, it is wise to use a strongly tipped graphite fly rod from 8½-9½ feet long that balances with a size seven or eight floating bass bug tapered fly line. Single action fly reels are preferred by most anglers.

For efficient, enjoyable surface bug fishing, it is important to select the proper leader. It should be constructed with a compound taper having a long stiff butt which matches the flexibility of the fly line tip. It is seldom necessary to fish any finer than a 3x tippet when using these bugs, and often 1x or 2x is adequate. Delicate tippets are not needed; however, I definitely find that I take more large bass with leaders at least nine feet long. The leader is the least expensive part of this tackle, yet it is by far the most neglected by many anglers. Over half of the fishermen attending my bass fly fishing schools show up with totally inadequate leaders.

By experimenting with these various bug styles on a variety of Virginia's waters, you may come to agree with the elderly Southern angler who stated, "Taking fish on surface bugs is so much fun that if I can't get them that way, I don't want them." You decide. □

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story & photos by
Bruce Ingram

Smashing the Myths

Unconventional lures can bring in smallmouth bass—consistently.



About Smallmouth Lures

In the past, the two kinds of lures that dominated my stream smallmouth tackle box were the standard floating-diving minnow plugs and crayfish crankbaits. Throw in a few hair jigs and propeller topwaters, and I thought that I was prepared for just about anything.

But part of growing and developing as an angler is both listening to the advice of other fishermen and constantly striving to come up with new tactics and approaches of your own. By being open-minded, I have found that some lures which formerly I used only for lake largemouths have helped me catch more and bigger river and creek smallmouths.

A prime example of a so-called lake lure is the plastic worm. No bass fisherman would visit his favorite impoundment without a good supply of crawlers; yet, it is the rare river rat who can be found with even a few annelids in his arsenal. However, I have found that using plastic worms for stream smallies is the closest thing to using live bait for these fish.

My awakening came on a mid-summer visit to the James River, the top smallmouth water in my home state of Virginia. Though I have enjoyed good success on the James in the past, I failed to catch or even hook a good fish on the trip—relying stubbornly on my usual lures. Meanwhile, my companion boated bass after bass while using plastic worms.

Arriving home that night and contemplating my miserable performance, I first decided that my poor fishing was merely a result of “bad luck.” After pondering the matter a while longer, however, I realized that my friend’s luck was the result of knowledge, and my misfortune was the result of a lack

Most anglers stay with the standard plugs and crankbaits for river smallmouths, but expanding your tackle box to include some unconventional lures may just increase your catch.

of it. The next time out, I took a number of “lake worms” along to a creek near my home. The result? I caught nine keepers ranging in size from 12 to 20 inches.

Since that day, I have had many outstanding excursions where plastic worms far outfished any other lure or even live bait. I especially like to use crawlers during tough conditions such as cold fronts. Smallmouths, like their impoundment cousin the largemouth, will suck in a plastic worm even when they are refusing to eat anything else.

Another advantage of worms is that you can work them deep and slow, thus keeping them in a smallmouth’s strike zone for a long time. A stream’s deep pools are a splendid place to work a worm. These holes won’t hold as many bass as a riffle area will, but they will usually conceal more quality fish. I rig my worms Texas style and retrieve them slowly across a pool’s bottom. In still water, I usually employ 1/8 ounce bullet sinkers; a good rule is the faster the water, the heavier the weight.

Texas style rigged worms are also great at getting into places in streams where a crankbait or minnow plug can’t be tossed. Log jams, brushpiles, and beaver lodges are all hot spots for stream bronzebacks, and a worm can be cast into the heart of such cover and be worked seductively through it.

Regarding size and color, I like six-inch purple worms the best, followed by black and green models in the same size. I have had better success on mono-colored worms than on two toned ones; likewise, those covered with sparkle flakes don’t seem to produce as well as the “homely” versions.

Another lure that one rarely sees on rivers is the Rebel Pop’R. On two consecutive weekends last summer, I was introduced to the effectiveness of this artificial even though neither fishing trip was on a stream. The first weekend, the Pop’R was used to catch huge Chesapeake Bay bluefish; and on the second, my guide employed this artificial to entice both impoundment stripers and largemouth bass from the Smith Mountain Lake.

After seeing the all-around fish catching ability of this topwater lure, I bought a 1/4-ounce model and took it to a stream the following weekend. On my first cast with it, I hooked into a three pound bronzeback; a half hour later a two pounder found the Pop’R to its liking.

Like the plastic worm, the Pop’R is not designed for someone who fishes in a hurry. After casting this lure, I let it set for 10 to 20 seconds at a time, and then give it a few little “pops.” Hits typically come when the lure has been sitting motionless; although reflex strikes sometimes occur after a series of rapid pops.

Although experimenting helped me learn about the usefulness of Rebel Pop’R for stream bass, I learned about the fish catching ability of grubs by imitating another sportsman. On a trip to southwest Virginia’s New River, my guide and I were discussing which artificial is the best all-around one for river smallies. Without hesitation he



Left: In areas of different depth and cover, a Potomac River Popper can be effective. Many different bug actions are often required here in just a short section of the river.

Right: Lake lures that work best on small-mouth: plastic worms, grubs, spinnerbaits and Rebel Pop'R.

replied that a three-inch grub in the motor oil color was the best lure he had ever tied on, and that he rarely used anything else.

I then proceeded to watch him battle bass after bass on the first day of our two-day float. Foolishly, I refused to use grubs the first day, thinking that they were basically a lake lure. By the morning of the second day, I learned firsthand just how deadly these plastic concoctions can be.

Grubs don't have the "sex appeal" of brightly colored crankbaits and they certainly lack the minnow-like motion of topwater plugs. In fact, many fishermen will tell you that it's best not to impart any motion whatsoever to a grub when you are reeling it in. I merely cast this lure out—keeping a tight line—retrieve it slowly.

Occasionally, I will try a stop-and-go retrieve, but again, this does not seem to be nearly effective as a straight retrieve. Like plastic worms, grubs are rarely viciously attacked by small-mouths. Typically, you will feel a slight pause in your retrieve or your



line will "jump" slightly. When either of these events occur, set the hook immediately.

Grubs are great to work through riffle areas, current breaks behind rocks or logs, and at the tail end of pools. Unlike plastic worms, grubs are very prone to getting hung up; so plan to bring along plenty on a trip. Motor oil, as my guide declared, certainly is a superb color, though brown and orange hues will also produce well. My favorite grub is one that is half orange and half brown; and this model works for me even when other colors are not producing.

Perhaps next to the plastic worm, no lure is as popular on lakes as a spinnerbait. A favorite of both tournament pros and weekend anglers, spinnerbaits will fool both keeper sized largemouths and true lunkers. But, except for the small 1/16 ounce versions, this lure has been largely shunned by stream enthusiasts.

I first saw spinnerbaits used for stream bass on the North Fork of the Holston River. The angler was casting

3/8 ounce models with chartreuse and white skirts; and, quite honestly, I thought he was merely wasting his time. But while on that outing I was only able to catch mossybacks in the eight to 11-inch range (using my old reliables), my friend landed a number of bass in the two to four-pound range.

Once again, I dismissed the entire event as a fluke and several years had passed before I met another river angler who recommended oversized spinnerbaits for big river smallies. He, too, outfished me on our trip and I finally became a convert.

Generally, I prefer short armed, single bladed spinnerbaits for stream bass. Smallmouths don't seem to require a lot of flash to get them turned on; indeed, too much flash in clear water seems to give the opposite response. As my stream spinnerbait mentor told me, don't be afraid to tie on the larger sizes. Overall, you'll catch fewer bass, but the ones you do bring in will be nice ones.

Spinnerbaits are also fine lures to work around areas such as logjams and

brushpiles that will often cause traditional stream lures (such as in-line spinners) to hang up. And as they are in lakes, spinnerbaits have no equal on streams for their ability to catch active bass. For inactive bass, try a slow retrieve and add a plastic frog or a pork trailer.

Employing so-called lake largemouth lures for stream smallmouths can result in some superlative fishing. Don't be afraid, like I initially was, to experiment with different artificials or to go against the grain of what is considered the standard wisdom. I still carry minnow plugs and crayfish crankbaits in my fishing creel, but I also carry a selection of plastic worms, grubs, spinnerbaits, and Pop'Rs. In fact, this past summer most of my largest smallmouths were fooled with plastic worms. And next year, who knows which uncommon lures will produce uncommon numbers of river bass for me—or for you. □

Bruce Ingram is the Virginia editor for Outdoor Life magazine and a frequent contributor to Virginia Wildlife.



Creek Pike

Chain pickerel don't limit their kingdoms to big lakes. The creeks of eastern Virginia are also home to the pugnacious lord of the still waters.

by Bob Gooch

I would get a strike in that pool. No doubt about it. And it would be a pickerel. Knew that also. I hoped it would be a good one. Creeks are not noted for lunker pickerel, but those stream jackfish don't lack in other good qualities—they're pugnacious and ruthless in their attack. They're solitary, and often spectacular leapers.

I won't say I expected that quiet little pool to explode. We outdoor writers, thrilled by the experience of heart-stopping strikes, have overworked that word. Still, it's highly descriptive, possibly the best adjective in the English language for describing the surface strike of the chain pickerel. Let's just say the attack on a well-presented topwater lure is disruptive in such a tranquil setting. But I wanted that kind of strike, and I would cast a surface lure.

I'd caught pickerel in that tiny fishing hole before, and as far as I knew no one had fished it since my last trip a year earlier. Few fishermen bother with small streams. And the fact that over the years I'd already taken a number of good fish from that hole didn't bother me. I knew it would produce again. Take a good pickerel from a pool and another will move

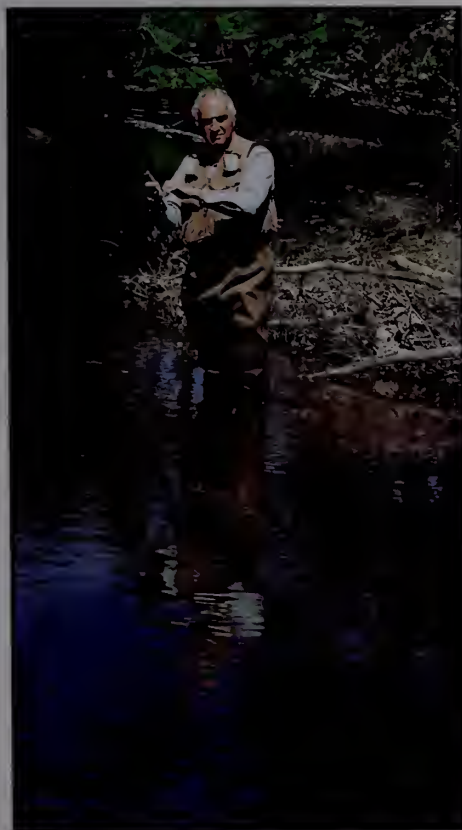


photo by Bob Gooch

quickly in to take its place, to set up an ambush, to reign as king of that tiny aquatic world.

"He's king of that hole," Bob Martin once told me, "and he'll attack anything that threatens his rule."

Anglers can take advantage of that mind set.

The fish I'm running on about is the chain pickerel, possibly better known as jackfish in parts of Virginia. That's what it was called in Fluvanna County when I was a youngster. Some call it the Eastern chain pickerel because its range is primarily east of the Mississippi River.

The pickerel is a native of Virginia waters, just as much a part of that little stream as the Native Americans who once roamed its banks. Little management effort has been directed toward the fish—except to set a daily creel limit. Little is needed. The fish gets along well on its own, thank you. Just give it clean water and a healthy population of bait fish. Nature, untampered with, is very capable of providing both.

There are also redbfin pickerel in some eastern Virginia streams. And possibly a few grass pickerel in the western ones. That, however, is

Opposite: photo by Larry Ditto

thought only to be a possibility, since it's a native of the Mississippi River drainage system. These two fish are small, rarely over a foot long, and they are known as the little pickerels.

The muskellunge and northern pike are introduced fish, big and exciting members of the pike family. Much alike in appearance and biologically linked, these five fish make up the pike family of which the chain pickerel is a prominent member.

But, back to the creek pickerel.

Sure, there are larger pickerel in the lakes, the still waters. The world

my case—partly. A 10-minute drive in my battered Scout and I'm on the banks of a good pickerel stream, clad in waders, three or four baits in a lure kit, and an ultralight spinning rod in my hand. Within a five-mile radius of my home are probably a dozen such streams, some I've never fished. Most are rarely fished by anyone. Some of the smallest creeks imaginable hold good pickerel, streams you would never even consider fishing.

This same situation exists throughout eastern Virginia. Yes, good pickerel fishing in the state is generally

the rule.

Of course you have to cast a surface lure to get a surface strike, but the very nature of creek fishing favors that. The typical creek pool is shallow, seldom more than waist deep. And clear. It takes no great effort on the part of the fish to rise from deep in the pool and hit a topwater lure. A bait dropped lightly on the calm water is obvious from any point in the pool. That old king of the hole is by nature a lurker. He prefers to wait in ambush for his prey, but he can't stand that intrusion—even if he isn't hungry.



record, a 9-pound, 11-ouncer, came from little Guest Mill Pond in Georgia, and tiny Douthat Lake in Alleghany County gave up the largest pickerel ever caught in the Old Dominion, a 7-pound, 12-ounce jack. A 6-pound, 2-ounce chain caught January 3, 1988 in Burnt Mills Lake, one of the Suffolk lakes, holds the record under the revised records program of the Department of Game and Inland Fisheries.

Still, there are some good pickerel in those small creeks. Neighbor Tom Payne has a mounted 4 pounder on his den wall, a handsome chain he caught in Fluvanna's Mechunk Creek. There are probably bigger ones in that creek.

But, why fish creek pickerel instead of the still-water fish?

Convenience is one reason. That's

limited to the eastern counties, primarily those waters east of the Blue Ridge Mountains, though both the Cowpasture and Jackson Rivers and many of their tributaries hold good populations. There are also pickerel in Craig Creek and many other tributaries of the upper James and Roanoke Rivers.

Many of the best streams are on private property, but getting permission to fish a creek is often relatively easy, possibly because such permission is seldom sought.

I suppose I also lean toward the creeks because I enjoy the dramatic strike of the pickerel attacking a surface lure. Sure, I've felt my heart leaping into my throat when lake pickerel hit my surface lure, but such instances are exceptions. Surface strikes in the creeks, on the other hand, are almost

I rarely fish anything except topwater lures in the creeks. They are good at noon as well as at dawn or dusk. I've never found the pickerel to be much of a night fish. And I don't believe it matters much what lure you fish. Rapalas, Rebels, Tiny Torpedos, Zara Spooks—all kinds of surface lures will get the fish's attention. You don't need too much surface disturbance, no wildly beating propellers or loud popping sounds. Just drop the lure softly on the water, twitch it a little—and hold on for action.

The chances are excellent you'll get a strike on that very first cast. Those chances decrease with each subsequent one, but don't give up too easily. Work that lure. Make it twitch, sputter a little, jump a bit. Give it just about any action you can dream up—or

impart to it. Eventually, you'll move on, but often not before you've enjoyed some action.

No, every creek pickerel I've taken over the years wasn't caught on a topwater lure—even though that's my choice. But most taken on underwater lures hit when I was fishing for some other species. I've caught good pickerel on doll flies, grubs, jigs, spinner-fly combination lures, and occasionally on spoons. There is no better pickerel lure than a red and white spoon, but it's not my usual choice for creek fish of any kind. I seldom fish it

good, but most fly fishermen probably prefer to fish conventional streamers or wet flies. A colorful marabou is hard to beat. Make sure it has some orange or red in it. The fish seems to have preference for these colors. And bass popping bugs can work magic in those quiet pools. It's exciting topwater fishing.

Most pickerel creeks have some fast water in the form of riffles or good runs, but the pickerel are most likely to be found in the still water. It is there that you should concentrate your efforts. Test those fast waters with a

"The pickerel has sharp teeth. Don't stick your finger in its mouth to remove a hook! Use pliers. Conventional angling wisdom would say to use wire leaders just as you do for muskie and pike, but many anglers do not."

there. If I wanted to fish the spoon for pickerel I would dress it up a little with a strip of pork rind, or pork rind imitation.

Another good pickerel lure is the Flatfish, a wobbling bait that was popular for years, went off the market, but then came back a couple of years ago. Basically, it's an underwater lure, but it will float at rest. Those options make it attractive for creek pickerel. Cast it out there on that sparkling surface, let it rest a few moments, and then twitch it. It'll run deep when you reel it in.

Fly fishermen can also enjoy catching creek pickerel, though on most of these smaller streams they'll run into trouble with their back cast. Best to brush up on the roll cast before taking to a tree-lined pickerel creek. Tiny lures such as the fly rod size Flatfish are

cast or two, but then move on.

Maybe I've made catching creek pickerel seem too easy. It can be when done properly, but the approach to the pools is critical. Use the trout angler's approach. Get in the stream and wade, keep a low profile, and use what concealment is available. Approach those hot spots with caution. Watch the sun and keep your shadow off the water. And make your cast from as far back as possible. The water is usually clear and the wary pickerel can spot an angler from a distance.

The pickerel prefers cool water, and that is one reason the fish frequent those small, well-shaded creeks. Because the water is shaded and reasonably cool even during the summer months, the fish may hit at noon as well as at dawn.

The time of day may be less important than the season, though one of the joys of fishing for pickerel is that it can be good all year. Creek fishing can be good in the dead of winter, providing the water isn't frozen. Even then you can chop a hole in the ice and dunk live minnows. The pickerel is a favorite of ice fishermen.

In the larger waters, March and April are top fishing months with the action slowing during the summer, but picking up again in the fall. This doesn't hold for creeks, however, as the fishing can be good throughout the summer.

The pickerel has sharp teeth. Don't stick your finger in its mouth to remove a hook! Use pliers. Conventional angling wisdom would say to use wire leaders just as you do for muskie and pike, but many anglers do not. I never have, and I can't recall losing a pickerel because of a severed monofilament leader or line. Maybe I've been lucky, but I never use wire. It hampers the delicate action of the smaller lures I use for creek pickerel. Possibly the thin monofilament slips between the pickerel's gapping teeth.

I don't know that the size of lures is that important for creek pickerel. The fish will hit large lures with reckless abandon, and I don't feel you should fish very small ones. I usually choose lures that cast well on the light spinning tackle I fish with. That's more of a gauge than the pickerel's questionable preference. I'm not sure that the fish is that selective. It has a big mouth, a big appetite, and a low boiling point.

Ultralight spinning tackle is my choice for creek pickerel. That means 4-pound test line, a light rod, and a tiny open-faced spinning reel. Someday I may get lucky enough to tangle with a good one that will wreck my light tackle, make off with a favorite lure, and leave my mouth agape.

Maybe it's that possibility that keeps drawing me again and again to those underfished pickerel creeks—armed only with light tackle, a lot of hope, and the knowledge that the fish will always be there. □

Bob Gooch is an outdoor newspaper columnist and author of several books on hunting and fishing. He lives in Troy, near Charlottesville.



Red surveyor ribbon tied to stakes along the shoreline started it all. For years, Ivy Creek had been known as an oasis of peace and wildlife, only four and a half miles from the center of a rapidly-growing Charlottesville. But when Elizabeth Conant was canoeing on a Sunday afternoon in 1975, and saw the ribbon, she knew it was time to move into high gear. Two days later, a representative from the national office of the Nature Conservancy was in her canoe. As they paddled up Ivy Creek past the beaver lodge, they came upon a white-tailed buck, frozen in position on a big rock above the water. A great blue heron rose into the air. It was a good omen.

Support built in a cooperative effort involving public and private sources, the Nature Conservancy, federal funds, local governments and the non-profit Ivy Creek Foundation. Thirteen years later, the part of Ivy Creek now known as the Ivy Creek Natural Area is still an oasis, publicly owned by the City of Charlottesville and the County of Albemarle, to be preserved in perpetuity for passive recreation and nature study.

The 215-acre area is increasingly surrounded by development, but the diversity of wildlife remains high. One hundred and twenty species of birds have been recorded and the plant inventory contains over 400 entries. Management includes trail development, the maintenance of some open fields and areas in different stages of succession. And in 1984, the Nongame Program of the Virginia Game Department awarded Ivy Creek Foundation a grant to establish a Watchable Wildlife Area. Watchable Wildlife Areas are places with good diversified wildlife habitat which provide easy access for the public. At the Ivy Creek Natural Area, the plan has been to create such an area providing information and access for the public. The purpose is twofold: to improve habitat for existing wildlife and to make a demonstration area which can be emulated on other lands.

The area chosen on Ivy Creek to establish a Watchable Wildlife Area

was a previously mowed hayfield, bordered by woods, a line of small white pines, a hedge and the service road to the headquarters barn. Game Department biologists provided outline plans and suggested some plantings. Existing Area trails passed through so much attractive and diverse habitat that the initial challenge was to make the new

passes two brush piles. Situated close to the woods, they provide good cover for quail, chipmunks, rabbits, mice and groundhogs. Hawks, owls and other predatory birds are attracted to the brush piles for the good hunting. There is always a lot of life associated with a good brush pile, and as the honey-suckle, blackberry and grape vines grow

A Paradise Saved

The 215-acre Ivy Creek Natural Area, saved from bulldozers and asphalt, is not a place for learning how to live with wildlife rather than without it.

by Elizabeth Murray
photos by John Danehy

trail equally worth visiting during its early years. So, after leaving the information kiosk, the Watchable Wildlife trail dips into the belt of white pines. Planted 10 years ago to mark the boundary of the Natural Area at that time, these trees form a good wind-break and cover and nesting sites for song sparrows, brown thrashers, mourning doves, mocking birds, towhees, juncos and Carolina wrens.

Emerging from the pines, the trail

up through it, so the food value increases. One count of birds and mammals in a brush pile consisted of 15 white-throated sparrows, 8 song sparrows, 5 cardinals, 2 Carolina wrens, 2 catbirds, a sharp-shinned hawk and several mice.

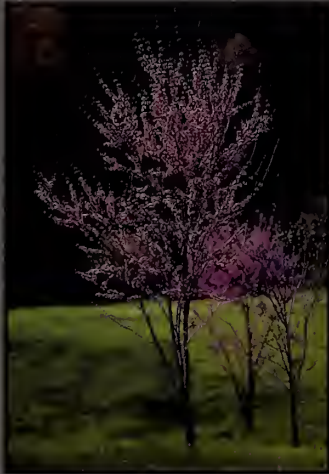
When the trail dips again into the woods, ecology mixes with sociology. The Ivy Creek land was first farmed by Hugh Carr, a freed slave. Mr Carr's ambition and good husbandry enabled

his six daughters all to become educated and well-respected members of society.

In the woods by the trail is one of the largest rock piles made during the Carrs' early clearing of the pasture land. Today the pile provides many potential niches for insects, snakes and other animals, with cool, damp, protected places under the rocks, and warm, dry areas on the upper surfaces. The large groundhog burrow on both sides of the trail provides not only a

spreading south ever since, displacing the indigenous purple finches. The trail passes round an island of wild cherry trees and roses in a small field and then doubles back past the annual grain plot.

The food plot is plowed each spring and its location is changed slightly each year to allow successional seed to come up for three years. A food plot is of most benefit to wildlife if it is close to easy cover, and the Ivy Creek plot is planted with clover, millet, corn, sun-



Ivy Creek Natural Area is also a managed area for wildlife, which includes the cultivation of such species as redbud (above), dogwood (above right), and encouraging the natural growth of species like fire pink (right), and bluets (far right).

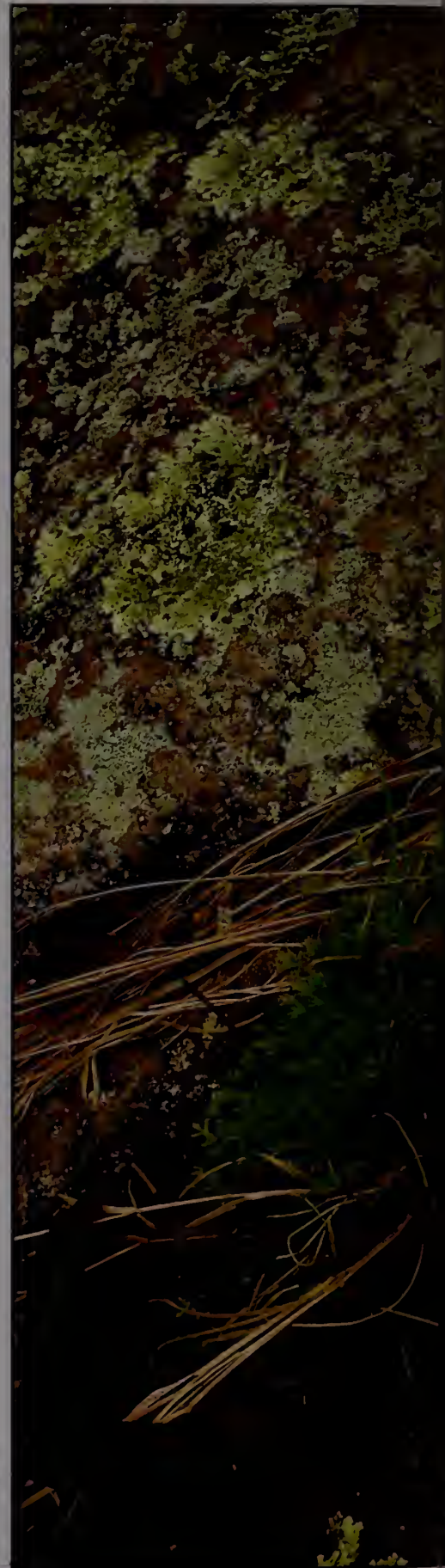
place for groundhogs, but also for foxes, skunks, and rabbits, all of which will use existing holes rather than dig their own.

The trail travels up the hedge, grown up over one of Hugh Carr's early fences, a tangle of wild roses, honeysuckle, poison ivy, catbrier and grapes, home and breeding ground for many rabbits, quail and small songbirds. Through a gap in the hedge, the trail enters into a transition area between field and woods, tall roses and mixed vines, cover and feeding area for many songbirds. Two winters ago saw a striking rise in the number of house finches, a species accidentally released in New York some years ago. They have been

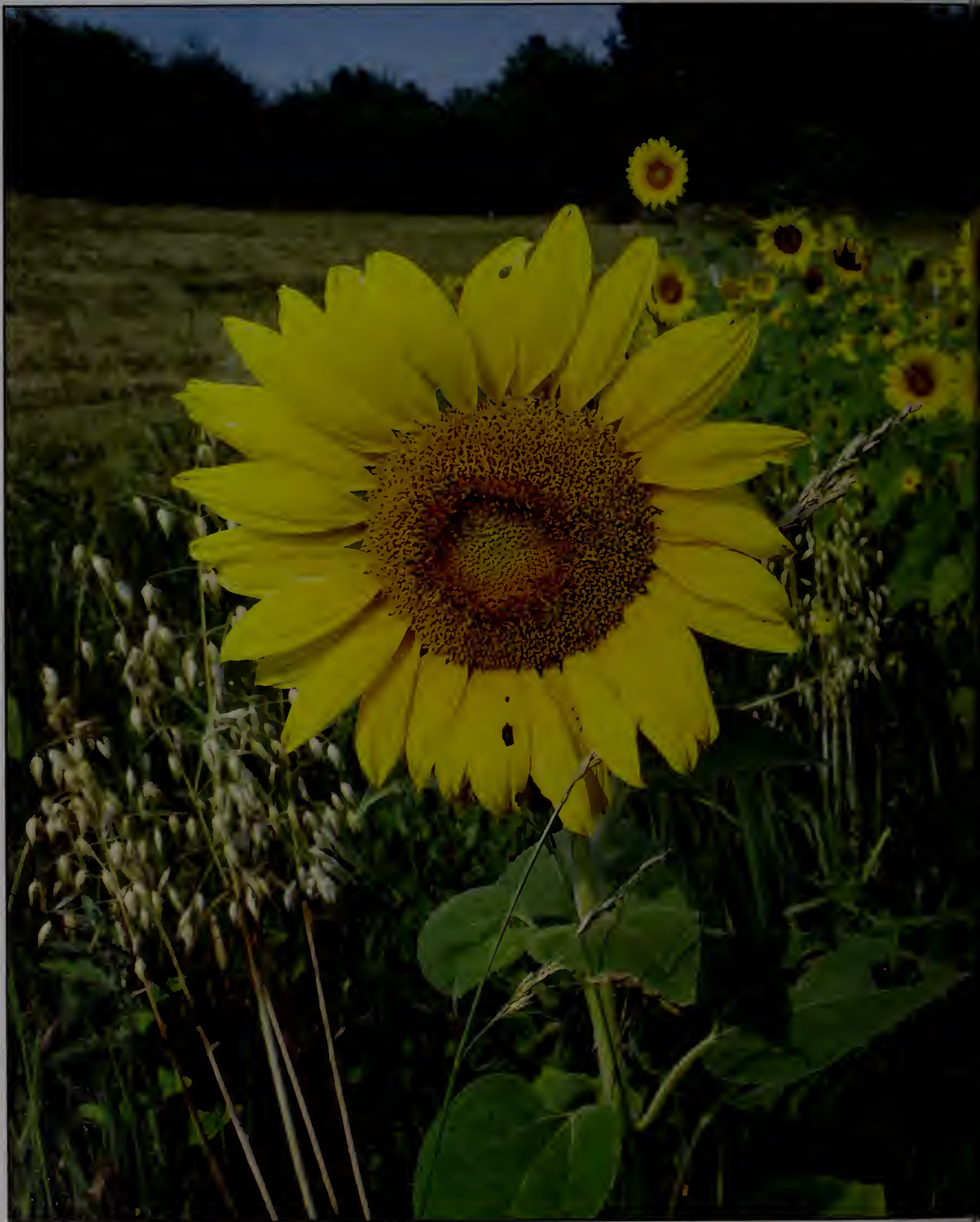
flower and either wheat or oats.

The original hayfield between the hedge and the white pines is being broken up with small groups of trees and shrubs which will form islands of food and cover. Native species have been used wherever possible and new plants are added each spring and fall. There are groups of dogwoods and deciduous azaleas, wild huckleberry, wild raisin and hobblebush, cedars and wild plums, other fruit trees and oaks.

Oaks are one of the chief sources of hard mast or nuts, providing good protein during fall and winter, and are eaten by songbirds, gamebirds, waterfowl, shorebirds, small mammals, deer, and other fur and game mammals.









Between the planted islands, succession is controlled by mowing twice a year, with an unmown strip left next to the woods for an edge zone, needed particularly for quail cover. Bulletins are posted frequently describing each phase of the work, and the new plants are all labeled so that the public may follow the progress and perhaps find encouragement to improve wildlife habitat on their own land.

The balance between habitat im-

TAKE ONLY PICTURES
LEAVE ONLY FOOTPRINTS



The additional plantings of such wildlife food as sunflowers have helped Ivy Creek become more responsive to wildlife needs. Visitors are also advised of the special preserve they are entering, and are encouraged to look for the small details that make the Natural Area so special a place.

provement and education is not easy. The Ivy Creek Natural Area is only a small piece of natural land surrounded by development. Yet, wildlife reports are encouraging. The beaver population is on the increase. There are two active lodges and another one just upstream and, perhaps inevitably, some nearby residents are starting to complain about beaver work on their land. The deer and turkey populations are maintaining themselves and probably increasing. Squirrels have had a bumper year, both at the Area and elsewhere in the state, although the very small acorn crop is not good for their late winter larder. The Area is becoming increasingly popular with bird watchers, mushroom foragers, stargazers, biology classes, and others who just want a short, wild hike, close to home.

What is told to the schoolchildren who take tours at the Area? Several thousand visit each year, to be taken hiking in small groups of 10 by the Ivy Creek Foundation's active corps of volunteer guides. The children are told the story of a piece of land, its origins geologically, its interactions with man through the farming phase, the fallow phase, the threat of intensive development, up to the present phase of management today. They are introduced to the way the land fits into the fabric of the present city and county community, what it teaches the people of the community and how the people, in turn, are encouraged to treat it and all other open space with respect. □

Elizabeth Murray is the coordinator of the Ivy Creek Foundation and a freelance writer living in Charlottesville.

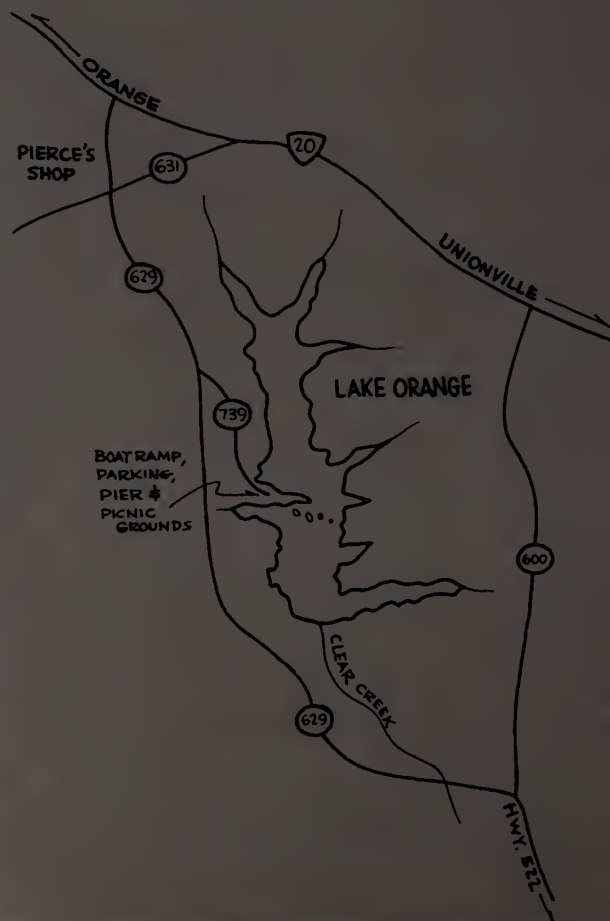
VIRGINIA'S

GAME DEPARTMENT LAKES—

A · P R O F I L E

Lake Orange

story & photo by Carl "Spike" Knuth

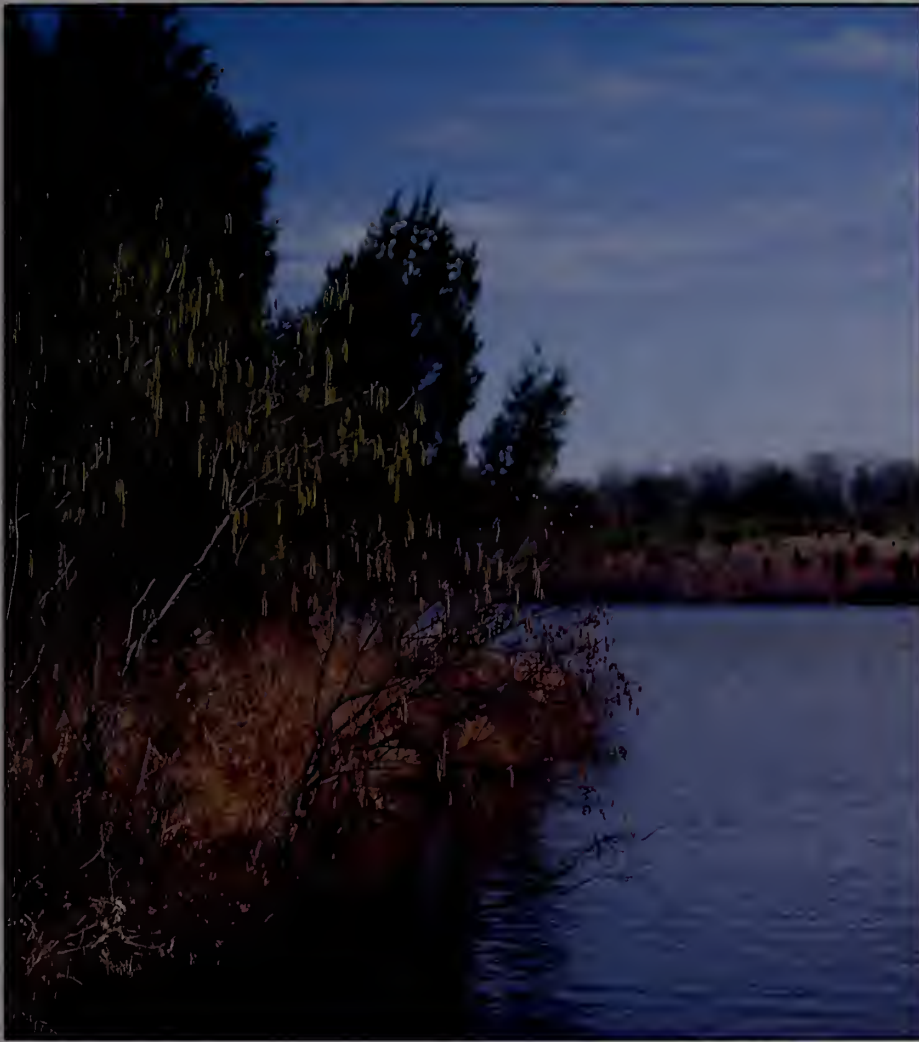


Looking for a good place for a family outing of fishing and picnicking, a place where you don't need a boat because you'd rather fish from shore, a place that the handicapped have easy access to, and a place that provides all the necessary facilities for a fun day in the outdoors? One of the best choices you could make is Lake Orange.

Lake Orange is a Department of Game and Inland Fisheries lake in Orange County that was constructed in 1964. It is located amid rolling farmland with some hardwood timber on its sloping banks. The lake has 124 acres of water with some small scenic islands and a maximum depth of 32 feet.

The lake was designed with the fisherman in mind, with a complete array of facilities. Boats and motors (electric only) can be rented, and there's a boat ramp for launching private boats. There is a floating fishing pier with easy accessibility for the handicapped, toilet facilities, picnic tables and grills, all located on an attractive point on the lake's southern shore. A new log-style concession building provides food, drinks, snacks, bait and tackle. Concessionaire Ron Sprouse says there is no charge to fish on the pier. The cost for launching a personal boat is \$2. To rent a boat with an electric motor costs \$15 a day while a rowboat is \$10. Biologist Ed Steinkoenig, who works out of the Department's Fredericksburg office, says that since it is a Department-controlled lake, it can be more intensively managed. Lake Orange's low watershed-to-surface acreage enables regular, effective fertilization to increase the food supply for fish. Additionally, cedar tree fish attractors have been sunk under and around the fishing pier and at least nine other locations around the lake which are clearly marked with buoys.

Black crappie are very abundant in the lake, and crappie populations are peaking on Lake Orange at this time. Although the fish are not averaging much over .2 pounds, there are plenty of them and they should provide a lot of fishing action. April and May are



usually the best times for crappies.

H. Grey Perego, who lives on the lake and fishes it regularly, says that slow trolling with beetle spins is a good way to locate fish and that it works well on all species. For crappies, he prefers "very small" minnows and Popeye Special jigs, with the color white producing a little better than chartreuse. Perego advises to fish crappie deep early in the year up to about mid-April when they move in to spawn. "Down towards the dam there's a slough on the left side, with lots of old, downed trees and some beaver lodges that hold crappie," adds Perego.

In his experience, Perego finds that the walleyes tend to be in the shallow part of the lake. He uses Erie Dearies tipped with nightcrawlers retrieved close to the bottom. Steinkoenig says that "anglers are doing pretty well with walleyes. "Last year, walleyes averaged

1½ pounds." He noted that there are two deep holes on the upper end that probably hold walleyes and the deep water near the dams should be good too. Steinkoenig says that minnows are good bait for the carnivorous walleyes, while Sprouse says many are actually caught on crappie jigs and small minnows by crappie anglers. Actually, according to Perego, "minnows will catch just about anything in the lake."

"Largemouth bass," says Steinkoenig, "are good, considering they are heavily fished in the lake." Largemouths are averaging almost 1½ pounds according to creel surveys.

Sprouse says that the bass go on the spawning beds beginning about mid-April. Perego prefers purple worm jigs and Rapalas for bass. Toward the end of April, he uses topwater baits and goes to purple worms about mid-May.

According to Steinkoenig, there's a well-established northern pike population at the lake that is underutilized. Pike were stocked beginning in 1966 and actually held the state record at one time. Probably one reason why pike are not caught as much is because they are more active in the colder months when angling pressure is low. Perego fishes minnows deep for pike, affixing a small bobber a little ways up the line to hold the bait off the bottom.

Channel catfish also were introduced to the lake at the outset in 1964, and Steinkoenig says that the lake has a "particularly good channel catfish harvest." Surveys show channel cats averaging two pounds. Perego fishes cats using chicken livers fished on the bottom.

Redear sunfish were also introduced in 1964 and are averaging .4 pounds per fish. Steinkoenig says that bluegills are on the small side. Perego uses worms or an artificial fly with a bobber for bluegills. He "matches the hatch" as closely as possible and works the fly under the bobber as if he were using a worm or minnow.

Almost 90 percent of the lake is accessible to bank fishermen via trails around the lake, and surveys show that there are three shore fishermen to every boat fisherman. While there is some home building near the shore, there is very little development around the lake, which adds to its peaceful and beautiful setting.

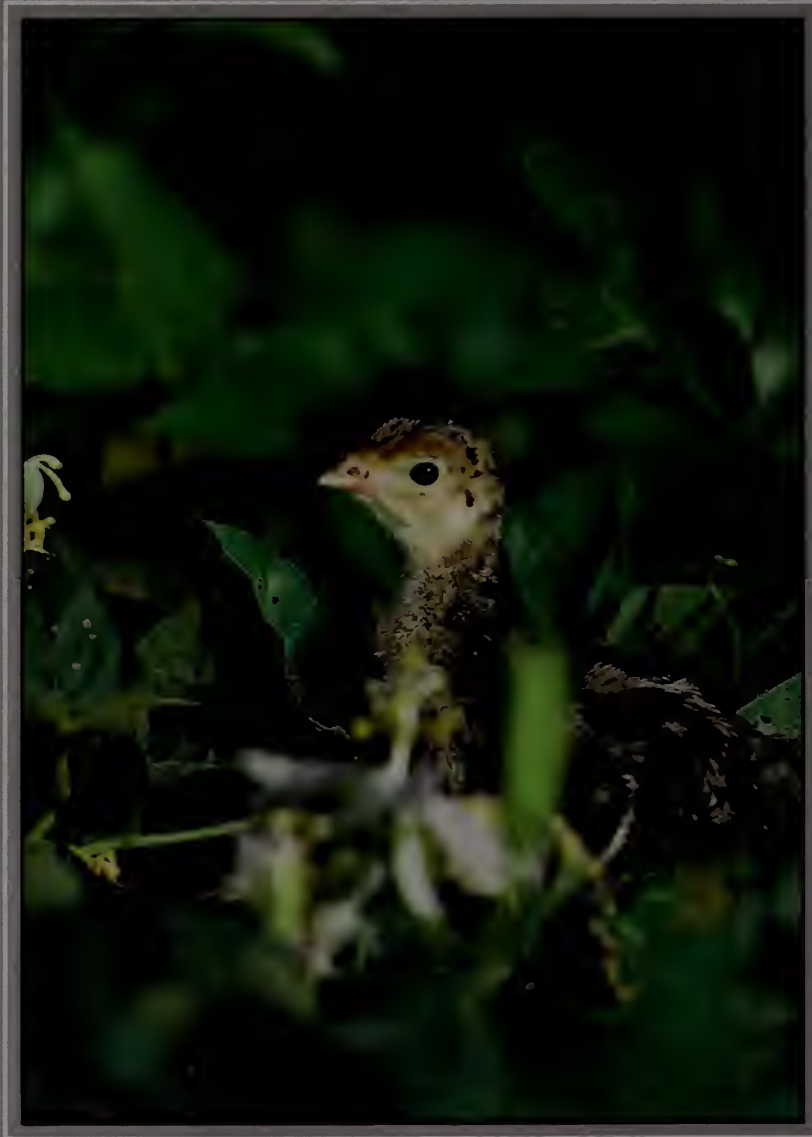
If you should happen to be fishing Lake Orange and see a fisherman with a little golden retriever puppy in the boat, that'll be H. Grey Perego. He invites anyone who has a question to come over and ask about fishing on Lake Orange.

Lake Orange is located five miles east of Orange and can be reached by taking Route 3 west to Route 20 west, then south on Route 629; or from the other end by taking Route 629 north from Route 522. The lake is open all year round, but the concession building is open only from mid-March to late-October. For more information about Lake Orange, contact Ron Sprouse at (703) 672-3610. □

Spike Knuth is a writer/artist with the Game Department's Education Division.

Princes of Spring

photos by Lloyd B. Hill



Wild turkeys are no longer a rare sight in Virginia. If you get out into the country at all, your chances are good of seeing a gang of the wonderful big black birds. But turkey poults are another matter. What we rarely stumble upon, Lloyd B. Hill has given us, in this photo essay of two-week old wild turkeys.

Princes of Spring



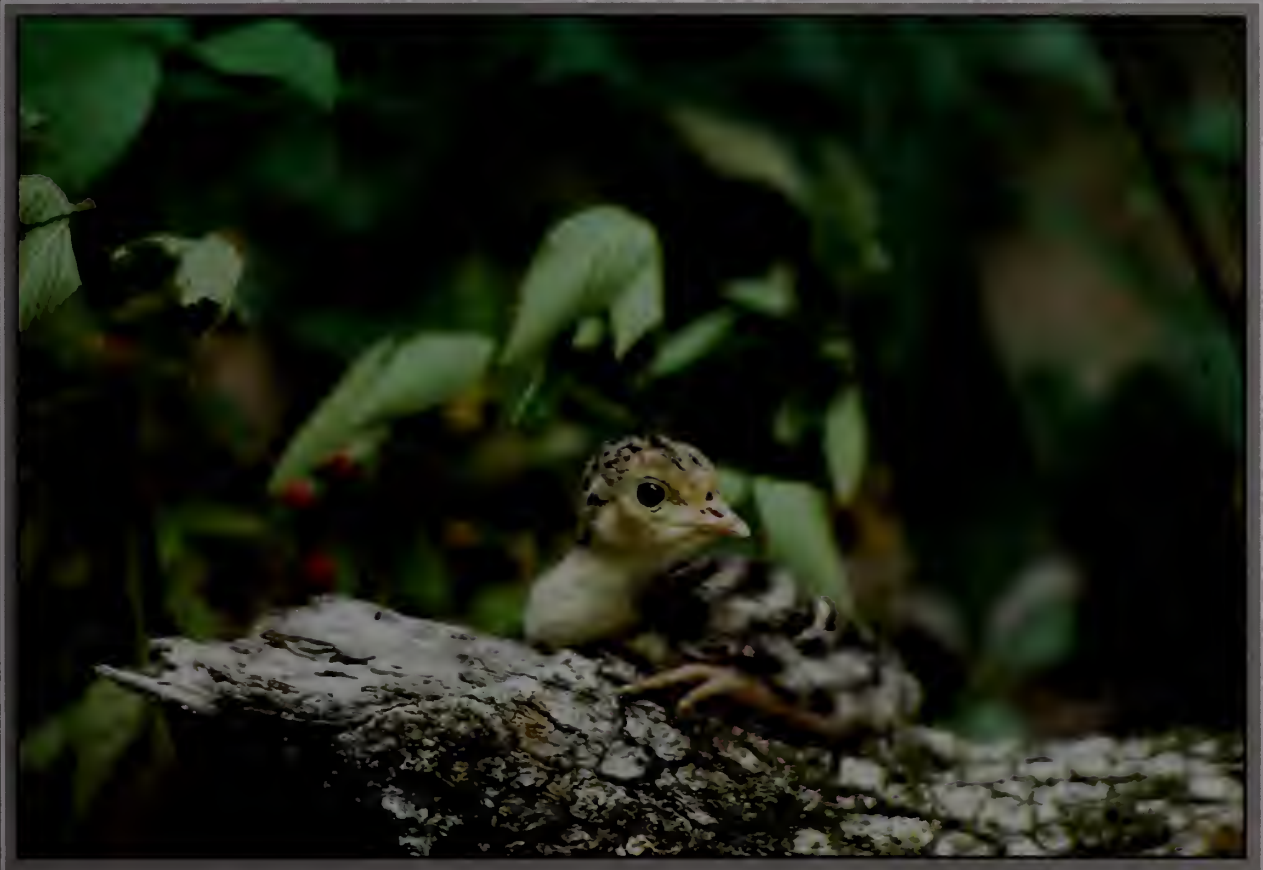
During this time of year, these young birds are out in our woods, but I'll bet you'll be hard-pressed to find them. Hen turkeys are highly protective of their brood, having spent 28 days incubating some 7 to 18 eggs. Game Department Assistant Director Jack Randolph compares that feat to successfully guarding a dozen bags of gold for 28 days in the middle of Central Park. It seems impossible, but most hens seem to be pretty good at it. A Georgia study found that between 30 and 90 percent of the nesting hens they studied hatched their eggs.

Princes of Spring



After the eggs hatch, the hen stays in a selected "nursery" area for several weeks as her young become stronger and better able to forage. In a Florida study of one to 14-day old turkeys, vegetation such as pods, berries, swamp cabbage and even Virginia creeper seeds comprised 75 percent of their diet, while insects such as beetles, stinkbugs, carpenter ants, crickets and butterflies made up the remaining 25 percent. The role of the mother hen at this time is critical for the survival of the poults, a lesson the Game Department learned first-hand years ago when attempts at restocking young hand-raised wild turkeys failed. It seems that a mother hen is indispensable in helping the young turkeys forage, escape from danger and seek cover from wet and cold.

Princes of Spring



Though some say that by two weeks poults can fly to escape the danger of spending their lives on the ground, by four weeks of age, there is no doubt that turkey poults have learned how to make their first short flights. With this new freedom, the brood will now increase its range throughout the rest of the summer and the fall. Unlike their cousins, the ruffed grouse and bobwhite quail, wild turkeys cover a lot of territory in one year, if not in one day. Dr. Henry Mosby, the late preeminent Virginia turkey biologist, reported that it was not uncommon for a turkey to cover "several miles in search of a single meal." This ability to move out of unproductive areas may account for some of the turkey's healthy status as a species in the state.

Princes of Spring



Wild turkeys born in May or June will stay with their mothers throughout the fall season and into the following spring. With the breeding season kicking off in March, the young will separate, with the hens forming small groups and the males splitting off to lead solitary lives. Mature females will lay one egg per day, and until the clutch is complete, will not devote themselves to incubating the nest. It is a magical thing, indeed, to know that 28 days after the *last* egg is laid that the entire clutch will hatch, and the tiny turkeys will fluff their feathers and begin again the cycle we hope will never end.—V.S.

May Journal

Go Fishing!

This year, go fishing for free. On June 3 and 4, you can fish anywhere in the state without a fishing license (except trout stocked waters) as Virginia celebrates National Fishing Week, June 5-11. In addition, the Virginia Department of Game and Inland Fisheries is sponsoring five free urban fishing clinics around the state on June 3 to encourage families to take up the sport.

"Five clinics have been scheduled in Richmond, Virginia Beach, Alexandria, Marion, and Roanoke this year as a means of bringing angling to people who might not otherwise have that opportunity," says Anne Skalski, the Department's Water Resources Coordinator. These clinics, which will be expanded in the future, are part of the Game Department's developing Water Resource Education Program.

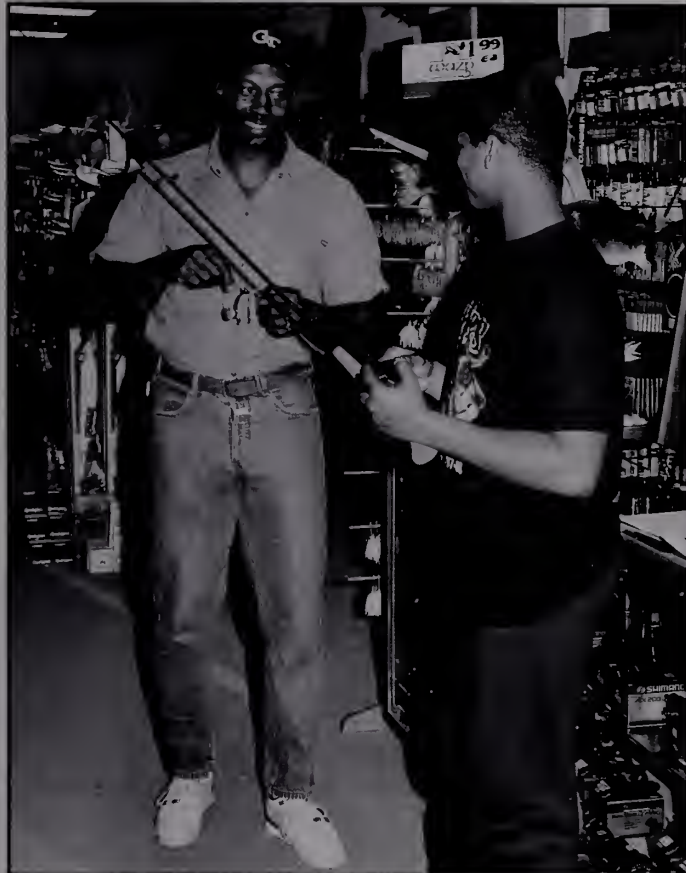
Backing the clinics in full stride is Washington Redskins' Monte Coleman. "Fishing is one of the most enjoyable sports in the world," says Coleman. "It's something a person can do all of his or her life. Plus, fishing is a natural for bringing children to the out-of-doors and the out-of-doors to children. But to get the most from the sport, it's important to get kids started early and correctly."

Youngsters ages 6 through 12 with an accompanying adult are invited to participate in the clinics. "The goal of the clinics is to acquaint families with the basics of angling Virginia's waters as well as to provide them with an opportunity to enjoy the sport of catching fish," says Skalski. The clinics will feature fishing instruction, plenty of supervised fishing, free snacks and lunch certificates. Fishing equipment and tackle are being provided for use to all participants. Capping each four-hour event will be a presentation of certificates and cane poles to all youngsters. Attendance at each clinic is limited to the first 100 youngsters to preregister with an adult. Persons interested in registering for a clinic should contact the Department of

Game and Inland Fisheries' Richmond Office for more information at 804/367-1000 or toll-free at 1-800-252-7717.

The clinics are being coordinated by

the Department of Game and Inland Fisheries with the sponsorship of the Virginia Bass Federation, McDonalds Corporation and many local sponsors. □



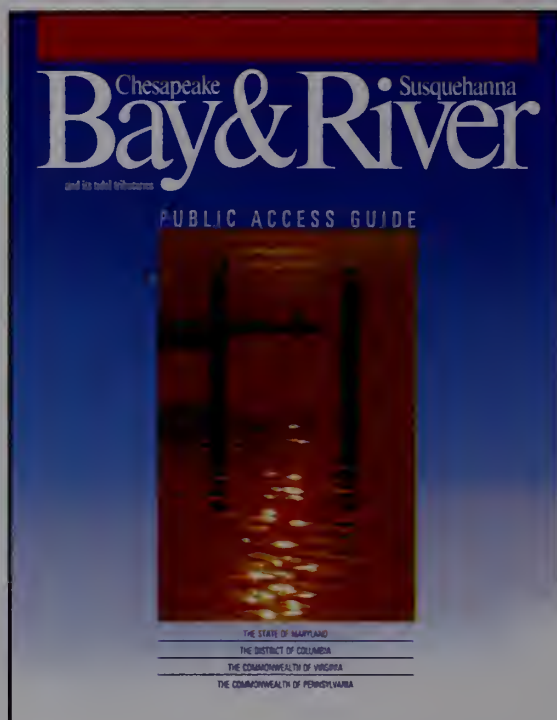
Washington Redskin's Monte Coleman is teaming up with the Department of Game and Inland Fisheries, the Virginia Bass Federation and McDonald's to help urban families learn about the sport of fishing.

HOOK YOUR FRIENDS ON FISHIN' FUN!

NATIONAL FISHING WEEK
JUNE 5-11, 1989



May Journal



Chesapeake Bay Access Guide

A new 75-page, full-color guide to over 750 boat launches, marinas and other public access points on the Chesapeake Bay and Susquehanna River is now available. The *Bay and River Guide*, listing more than 260 public access points in Virginia, features over 50 easy-to-use color maps and tables. Available through the Department of Conservation and Historic Resources, and the Game Department, development of the guide was a joint effort between Virginia, Maryland, Pennsylvania and the District of Columbia as part of the 1987 Chesapeake Bay Agreements.

The *Bay and River Guide* is designed to appeal to both the avid outdoorsman and the casual visitor. Whether the user is looking for a public boat launch, hiking trail, fishing pier or the ideal spot for a picnic and some bank fishing, the guide has information that can help plan the trip. Information featured includes fees and phone numbers, plus the maps show the easiest access routes.

The *Bay and River Guide* costs \$4.95 and is available by visiting or writing the Department of Conservation and Historic Resources, 203 Governor Street, Richmond, Virginia, 23219 or the Department of Game and Inland Fisheries, 4010 West Broad Street, Richmond, Virginia 23230-1104. □

Letters

Facing Reality

I am glad that you published Ms. McEwan's and Dr. Rapp's letters in the March, 1989 *Virginia Wildlife*. Those letters awaken us to reality. Most landowners do not want hunters or other strangers on their land. Understandably, they view the fields, the woods, the mountains and streams over which they hold title, whether they obtained that title by inheritance, hard work or otherwise, as something held to the exclusion of the general public. It doesn't matter that their money and their use of the land often

have done little to enhance the animal populations or that they receive tax breaks from farming subsidies and land use statutes that the general public does not receive. It also doesn't matter that quality public hunting land in Virginia and all along the East Coast is virtually nonexistent. They have theirs and to hell with the general public, be it hunters, fishermen, hikers, ATV riders, etc. My guess is that regardless of how considerate hunters and fishermen are of private property, most large landowners will never allow public hunting or fishing on their property.

Having stated what I think reality is with regard to hunting and fishing private land, here are several suggestions which I think might increase the availability of private land for the enjoyment of the general public:

1. Reduce the state income taxes of those who enhance wildlife habitat and permit limited hunting and fishing on their land.

2. Require the enhancement of wildlife and limited hunting and fishing on the otherwise unproductive land of those who receive farming subsidies.

3. Require the enhancement of wildlife and limited hunting and fishing on land which is taxed on its use rather than its fair market value.

4. Permit landowners who use their land for the enhancement of wildlife and who permit limited hunting and fishing to have that land taxed on its use rather than its fair market value.

5. Raise the costs of hunting and fishing licenses and stamps, create new stamps and generally increase revenues at the hunter's expense and the fisherman's expense to finance the above suggestions.

I believe that hunters, fishermen, conservationists, environmentalists and that entire portion of the general public which enjoys the outdoors must be willing to pay to use it. I also believe that those large landowners who suckle on the public teats of farm subsidies and land use taxation must be required

to allow limited public use of their land. If they do not wish to share the benefits of large tracts of land, then let's cut off the public milk.

George M. Mayhugh
Warrenton

Praise for PEC

The article in the February 1989 issue of *Virginia Wildlife* on "Challenging the Bulldozers" by Nancy Hugo is the best article I have ever read on the preservation of one of Virginia's most valuable resources—undeveloped land. The Piedmont Environmental Council deserves the highest of recognition and appreciation from the Virginia Department of Game and Inland Fisheries, its Board, and the citizens and sportsmen of this state.

The inside cover of *Virginia Wildlife* has a quote at the bottom of the page "Dedicated to the conservation of Virginia's wildlife and related natural resources." If the Department and Board are serious about the preservation of our wildlife and their habitat, then I strongly urge you to adopt the goals of the Piedmont Environmental Council and to promote similar organizations throughout the state. Otherwise, soon after the turn of the century, most of the eastern half of Virginia will look like Fairfax, Chesterfield or Virginia Beach, and the only wildlife such as deer, turkeys and other game for the Department to manage will be in parks, zoos, and the national forests.

I plan to share copies of this article with the Board of Supervisors and Planning Commissions in my area in hopes that the quotes and statistics will show the advantages of maintaining a rural environment.

Also, I showed this article to two co-workers who immediately subscribed to *Virginia Wildlife*. Thanks for publishing it and keep up the good work.

Robert H. Shackelford, Jr.
Newtown

Thank you! Because of the tremendous

response to "Challenging the Bulldozers," we are scheduling several more articles this year to explore further the open space crisis in Virginia—Editor



Navigation Aids

Many years ago, a pilot approaching a coast or negotiating a river had very little to guide him. Today, boaters are lucky because our seacoast and navigable waterways are generally well marked. These markers, called "aids to navigation" are of various types to suit conditions and locations. All aids to navigation (except private aids) in the waters over which the United States has jurisdiction are designated, built, and maintained by the United States Coast Guard. In deep waters, floating markers called "buoys" are very common, while tall poles with markers near the tip are often found in shallower areas. Other aids are light-houses, lightships, and range markers. If we go up a river, from the seas, we will find red aids to navigation with even numbers on our right and green aids with odd numbers on our left. We have arbitrarily decided to think of going upstream as "returning," so we remember which side the red aids should be on, by saying "red, right, returning." Conversely, proceeding downstream the red aids will be on our left.

At night we cannot see the color of the aids or their numbers without a spotlight or flashlight. To help boaters, many aids are equipped with flash-

ing lights. The red aids may have red lights, and the green aids may have green lights, and midchannel buoys have white lights. Aids to navigation may also have reflectors which have the same color-significance as lights.

Midchannel buoys may be passed on either side and they have red and white vertical stripes. Since they mark the center of the channel, it is safe to pass fairly close to them. A type of buoy which marks junctions is the horizontally banded buoy. If the topmost band is red, it should be treated the same as a red aid to navigation, and kept on your right going upstream. If the topmost band is green, it should be treated as a green aid and kept to the left going upstream.

There are many kinds of sound buoys. The important ones may be equipped with horns, whistles, bells or gongs, and are useful in periods of low visibility, such as darkness, heavy precipitation or fog. Many sound buoys are activated by the motion of the sea, and when the water is calm may emit no sound at all.

When a rotating amber light is seen, or a siren heard at a waterfront facility, there is an emergency at that location. Boaters should stand well clear of facilities giving such signals, and report the occurrence as soon as possible to the nearest Coast Guard unit or other law enforcement agency or unit.

Buoys should never be regarded as immovable objects. During some winters, ice will pull many of them off the charted position. They may also be missing, adrift, or off position due to storms, unusual tides and collisions. Even buoys which are on station should be kept at a reasonable distance, since they may necessarily be located close to the shoals they mark. Therefore, boatmen should not rely completely upon the position or operation of floating aids to navigation, but whenever possible utilize bearings toward fixed objects or aids to navigation located on shore.—William Antozzi, Boating Safety Officer

May Journal

Habitat

Viburnums

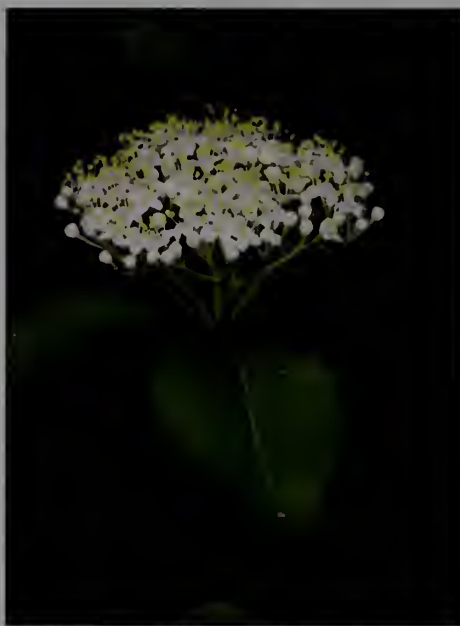
by Nancy Hugo

Always a bridesmaid, never a bride. That's the way it must feel to be a viburnum in Virginia. It doesn't matter that you're gorgeous, doesn't matter that you thrive. When your state's already in love with the dogwood, you'll never be a bride.

But what beautiful bridesmaids the viburnums make. There are nine species of viburnums native to Virginia, and they are among our most beautiful flowering shrubs. I can't quite understand why they're so often overlooked, except that we tend to see what we know, and we don't learn viburnums in grade school the way we do dogwoods.

Where they grow in the wild, viburnums tend to grow in masses—they blanket hillsides, line stream banks, form thickets. When they bloom in the spring or summer, they are loaded with white, usually flat-topped, flower clusters. Berries follow the flowers in the fall, and it's both these berries and the plant's value as cover that make them so valuable to wildlife. They are among the best wildlife plants for the home landscape because not only do they have beautiful spring flowers, fall foliage, and berries, they are adaptable to a wide variety of soil conditions. And they are virtually disease and pest free. The only problem in growing viburnums is deciding which one to choose.

Three of the most common and useful species in Virginia are the black haw (*Viburnum prunifolium*), arrowwood (*Viburnum dentatum*), and the maple-leaved viburnum (*Viburnum acerifolium*). The black haw is my favorite of the native viburnums. It's huge, sometimes growing to 15', and it can even be grown as a small tree. In mid-spring, it's covered with dense clusters of white flowers 2-4" across,



Black haw (*Viburnum prunifolium*); photo by Rob Simpson.

and the berries, which have been used since colonial times to make preserves, change from yellow to red to blue-black as they mature. Black haw viburnums have a distinctive branching pattern—their stiff stems branch at right angles to each other, and their oval fine-toothed leaves turn a rich red color in the fall. Black haw viburnums

adapt to most soils and will grow in sun or light shade.

Arrowwood gets its name from the Indians' use of its straight young stems as shafts for arrows. Two-inch clusters of white fertile flowers grow at the ends of its stems in early summer followed by oval ½-inch blue-black fruit in early fall. Its leaves are coarsely toothed, almost round, and turn purplish red in the fall. This is not the viburnum to use as a specimen plant, because it forms thickets that can grow 10 feet tall and 10 feet wide, but it's a great shrub for mass plantings and screens. Robins, bluebirds, thrushes, catbirds, and vireos love its fruit and it provides great protective cover in the summer. I've been told arrowwood will thrive in deep shade and soggy soils, but most experts suggest growing it in sun to part shade and in dry to moist well-drained soils.

The maple-leaved viburnum is a low growing (to about 5') viburnum that is shade tolerant. It's a woodland native often found in the understory of hardwood forests. Its three lobed maple-like leaves turn dusky purplish in the fall and its small blue-black berries are quickly harvested by birds.

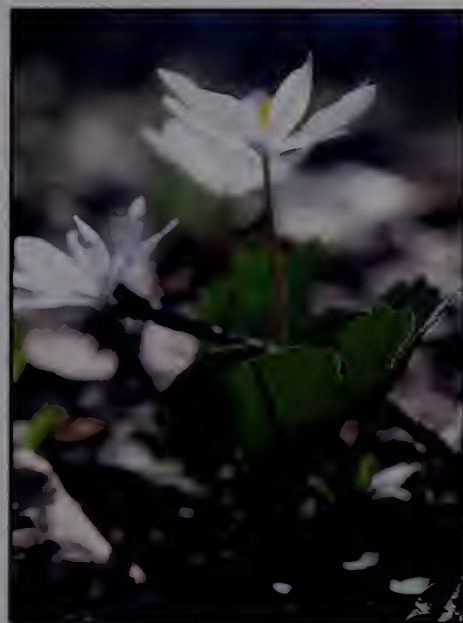
Until recently it's been hard to find many of our native viburnums in nurseries, but nurseries that specialize in native plants have begun carrying a few of them. Carroll Gardens (1-800-638-6334) lists the three mentioned here for about \$10.00 each. Other native viburnums to watch for include *V. lentago*, the Nannyberry, and *V. cassinoides*, the Wild Raisin. Although not native to Virginia, the cranberry bush, *Viburnum trilobum*, is another great viburnum for the landscape. Its juicy red fruits often stay on the shrub all winter before they're taken by birds in the spring. □

The Woodlands Come Alive

Enlarged, upright bloodroot leaves shield their precious seed pods from sight. Their flowers had bloomed already some weeks ago with the warming April sun. Now they are merely big green leaves amid carpets of purple, violet, blue and white violets. The leaves of many trees, saplings and shrubs are in their early stages of growth, spreading a veil of green about the woods. The brownish, leaf-covered forest floor has been pierced by growing plants of all kinds—poking through rich humus. They are so varied and numerous that it is somewhat frustrating not knowing all of their names. I make a mental note that I must better learn my flowers, shrubs and trees.

These are just a few of the sights that you might see in a woodlands of mostly hardwoods and a scattering of evergreens in the spring of the year. You will also see a great variety of migrating birds. I recall one day in May as I walked into one of my favorite woods on the private property of friends a red-headed woodpecker watched me cautiously as I entered along an old access road. It struck me odd that he sat crossways on the branch in the manner of ordinarily perching birds. Normally, he'd choose to sit parallel on the branch. But then, woodpeckers are surprising creatures.

I came upon an old log cabin overlooking a small marshy pond. Down the hill toward the pond, trilliums were visible on the forest floor. I spotted movement in the leaves which turned out to be a dozen white-throated sparrows. Their coloration blended perfectly with the background of dead leaves. At first I could only hear them, but sudden little "explosions" of leaves gave their positions away as they scratched and kicked the leaves backwards to get at seeds and insects that



Bloodroot (*Sanguinaria canadensis*); photo by Cindie Brunner.

were underneath.

A palm warbler foraged near the ground on low-growing shrubs and saplings—flying erratically at tiny insects. Never still, it "wagged" its tail while investigating my presence. Seemingly satisfied that I was no threat to it, the little bird went back to feeding.

At a small dam made up mainly of woody debris which had formed a small pond, a catbird flitted into a

thicket near the creek below the dam. From here it uttered its catlike call. I crossed the creek and started up the trail that led along the other side of the shallow pond. Another small bird flew ahead of me. With the help of binoculars, I was able to identify it as a black and white warbler. Another flash of color turned out to be a beautiful magnolia warbler. Movements in the tree canopy revealed a pair of redstarts feeding with fanned tails as they chased flying insects amid the high branches.

Farther up the trail where the creek meanders into the pond, I saw a chestnut-sided warbler, then a black-burnian warbler in all their splendor as they moved through branches of feathery willows. A black-capped chickadee flittered back and forth above me and a "scratchy" noise from some bushy alders along the creek proved to be a little masked yellow-throat male.

Growing in the marshy grass near a group of aspen was a clump of bright yellow marsh marigolds. One of the fascinating things about a woodlands in spring is how the scenes change week to week. New species of flowering shrubs, trees and flowers take their turns in splashing color through the woods, and different species of birds make their appearance in sharing the woodlands as they migrate to their respective breeding grounds.

On returning through the woods, I saw six rose-breasted grosbeaks feeding on willow flowers, hanging upside down like parakeets, and sometimes on the side of the trunks like woodpeckers. Black-throated green warblers, Canada warblers and a red-bellied woodpecker are added to my list on what turned out to be an inspiring day in spring—when the woodlands come alive. □

Family Outdoors

by Spike Knuth

Virginia's Wildlife

Perhaps no insect invites more careful observation than the praying mantis, because it's big, it's slow, and its body looks strangely familiar. Standing half erect with its arms folded as if in prayer, the mantis suggested a holy man to the Greeks, who called it "the prophet," and its upright posture and unique ability to turn its head and direct its gaze make it seem the most "humanoid" of insects. Add to this its reputation for cannibalism and a range of behaviors from the stillness of a monk to the fierceness of a warrior, and the praying mantis holds fascination enough to send every schoolboy scurrying for his insect jar.

The praying mantis's body alone is a spectacle. To the untrained eye it is a gentle stick man with gossamer wings; to the trained eye it's a fighting machine. Those arms so often folded in prayer are equipped with needle sharp hooks at the ends and sharp double rows of spines. The mantis can strike out with these forearms in a fraction of a second and return holding a moth, bee, butterfly, cricket, or fly in a vicelike grip. "The mantis is as fierce as a tigress, as cruel as an ogress," wrote the French naturalist Jean Henri Fabre in the *Social Life of Insects*, and although his words sound more poetic than scientific to the modern ear, they are must reading for the young naturalist interested in mantids. *Mantid* is a synonym for *mantis*, and the plural form *mantids* is less cumbersome than *mantis*.

It's true that the mantis is highly predacious, but it may not be as cannibalistic as is sometimes thought. The mantis is very often in a state of hunger and mantids do cannibalize each other, but the story most often told about the mantis—that the female routinely cannibalizes the male in the act of mating, has begun to be questioned. Fabre observed this behavior of mantids in captivity and other scientists have observed it, too, but new research suggests this behavior may be rare in the field.

At one time it was suggested that the

The Praying Mantis

by Nancy Hugo
photo by Rob Simpson

Opposite: Carolina mantis (Stagmomantis carolina).

female's cannibalistic behavior toward her mate might be necessary to "disinhibit" the male's sexual response. That is, according to this argument, it might be necessary for the male to literally lose his head (his brain) in order to mate. A 1987 study suggests otherwise, however. It found that in 69 laboratory observations only one Chinese mantis male was decapitated by a female preceding mating. Most entomologists believe now that factors like the female's state of hunger, the species of mantis, and the presence of an observer may influence the likelihood that the female will cannibalize her mate, and they believe it happens only infrequently in the wild.

Another myth about mantids has to do with their value as beneficial insects. Praying mantis egg cases have been and still are offered by mail order garden catalogs as natural control for garden insect pests. Mantis expert Larry Hurd of the University of Delaware suggests, however, that the praying mantis is as likely to eat beneficial as harmful insects (beneficial bugs like spiders, honeybees and wasps are, in fact, among the mantid's favorite foods)

and that the mantid's overall impact on the ratio of harmful to beneficial insects in the environment is probably neutral.

The two most common mantids in Virginia are the Carolina mantis and the Chinese mantis. The Carolina mantis is a native mantis; the Chinese mantis, which may be displacing our native Carolina mantis, was introduced to this country in 1986. Both species can be either brown or green, but the Carolina mantis is usually smaller than the Chinese mantis (The Carolina mantis is about 6 cm long, the Chinese mantis is about 9-10 cm). Their wing lengths also differ in that the Chinese mantis's wings cover the sides of the abdomen completely; the Carolina mantis's wings come only about 3/4 way down the abdomen on the female.

The praying mantis's life cycle begins in late April or early May when newly hatched nymphs emerge from egg cases that have overwintered on twigs, plant stems, or other support. These egg cases are marvels of engineering. They are made of a material that the female has excreted from her abdomen and beat into a froth even as she laid her eggs in the middle of it. Equipped with hatch-like doors that allow the new nymphs exit, the egg case dries within a matter of minutes into a weather resistant mass that resembles paper mache. The Chinese mantis's egg case is roughly ovoid, and about as big as a ping pong ball. It's often found wrapped around a golden-rod stalk. It may contain as many as 300 eggs, but only two or three of the emerging nymphs will survive to adulthood. The Carolina mantis has a smaller, thinner egg case containing fewer eggs; it's usually attached to a thicker stem than that chosen by the Chinese mantis.

Thinking they're cocoons, children often bring these egg cases home to wait for the butterflies to emerge. Instead, hundreds of praying mantises may hatch in the house—a good reason to keep the lids on those insect jars. □



